

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/813,992

REMARKS

Claims 5-7 have been examined. Claims 1-4 and 8-10 have been withdrawn from consideration as being directed to non-elected inventions. Claim 6 has been canceled without prejudice or disclaimer.

Title of the Invention

The Examiner has objected to the Title of the Invention. Applicant has amended the title. This amendment is believed to obviate the Examiner's objection.

Claim Rejections under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 5 and 6 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant submits that claim 5 has been amended to more clearly and particularly define the invention. Applicant submits that these amendments are being made to more clearly and particularly recite the features of the invention and that these amendments do not narrow the claims. Therefore, the rejection of claim 5 under § 112 should be withdrawn.

Claim 6 has been canceled, and therefore, the rejection of claim 6 is moot.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 5 and 7:

The Examiner has rejected claims 5 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Prior Art Figure 1B (APAF) and Abe (JP 07-273200). For the following reasons, Applicant traverses this rejection.

Applicant submits that neither APAF nor Abe, either alone or in combination, teaches or suggests the claimed combination. For example, contrary to the claimed invention, the APAF

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teaches a single window 131 in the form of a recess defined in the films and extending from the surface of polyimide film 117 to a middle position in first interlayer insulating film 114. That is, the APAF clearly does not teach or suggest an insulating film having a thickness which prevents the laser beam from damaging the fuse electrodes, except for a plurality of cutting positions formed over the fuse electrodes, wherein the insulating film has a thickness which allows the laser beam to pass through the insulating film and cut off the fuse electrodes, as claimed.

On the other hand, contrary to the claimed combination, Abe teaches a reflecting plate 4, formed from a metal, having beam irradiating apertures 12, 22, and 32. In addition, Abe teaches that the reflecting plate 4 prevents the laser beam from reaching the insulating layer 5. Thus, Abe also does not teach or suggest an insulating film having a thickness which prevents the laser beam from damaging the fuse electrodes, except for a plurality of cutting positions formed over the fuse electrodes, wherein the insulating film has a thickness which allows the laser beam to pass through the insulating film and cut off the fuse electrodes, as claimed. In fact, by teaching a reflecting plate for preventing the laser beam from even reaching the insulating layer, Abe clearly teaches away from the claimed combination.

For example, Abe discloses that the reflecting plate 4 prevents the laser beam from reaching the insulating layer 5. Further, Abe teaches that there is a risk of trauma to the substrate in the apertures, i.e., where the reflecting plate does not provide protection. In fact, since Abe teaches a reflecting plate for preventing the laser beam from even reaching the insulating layer 5, the thickness of the insulating layer is irrelevant to the device of Abe. Therefore, Abe also does not teach or suggest the claimed combination.

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Accordingly, the combination of the APAF and Abe would produce nothing more than the disclosure of Abe with an insulating film between the reflecting plate and the fuse electrodes. Thus, the combination of the APAF and Abe would not teach or suggest the claimed combination, and therefore, the rejection of claim 5 should be withdrawn.

With respect to claim 7, Applicant submits that neither the APAF nor Abe, either alone or in combination, teaches or suggests all of the claim recitations. For example, Applicant's claim 7 defines a new and unique combination of elements which form an integrated circuit device. Included among the recitations, claim 7 recites, *inter alia*, "adjacent fuse electrodes disposed in respective layers which are different from each other."

As shown in Figure 1A, the APAF teaches fuse electrodes in a single layer, not in different layers. Similarly, Figure 2 of Abe teaches fuse electrodes disposed in a single layer, not in different layers. Therefore, neither the APAF nor Abe, either alone or in combination, teaches or suggests at least this recitation of claim 7, and therefore, the rejection of claim 7 should be withdrawn.

Claim 6:

The Examiner has rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Prior Art Figure 1B, Abe, and Lee et al. (U. S. Patent No. 5,872,390). Claim 6 has been canceled, therefore, the rejection of claim 6 is moot.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


John J. Dresch
Registration No. 46,672

SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

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APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

The title is changed as follows:

-- [METHOD AND APPARATUS FOR CUTTING OFF FUSE ELECTRODE,
INTEGRATED CIRCUIT DEVICE, AND METHOD OF MANUFACTURING SAME]

APPARATUS FOR SELECTIVELY CUTTING FUSE ELECTRODES --

IN THE CLAIMS:

Please cancel claim 6 without prejudice or disclaimer.

The claims are amended as follows:

5. (Amended) An integrated circuit device comprising:

a plurality of fuse electrodes arrayed parallel to each other with a pitch substantially equal to a spot diameter of a laser beam to be used for cutting said fuse electrodes [extending parallel to each other]; and

an insulating film covering said fuse electrodes, said insulating film having a thickness which prevents said laser beam from damaging said fuse electrodes, except for a plurality of cutting positions formed over said fuse electrodes, wherein said insulating film has a thickness which allows said laser beam to pass through said insulating film and cut the fuse electrodes;

wherein said [a] plurality of cutting positions [windows associated respectively with said fuse electrodes, said windows including windows associated respectively with adjacent ones of said fuse electrodes and] are disposed in respective positions which are different from each other

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in a direction in which the fuse electrodes extend[, said windows being defined by an insulating film having a thickness which allows a laser beam to pass therethrough to cut off the fuse electrodes].